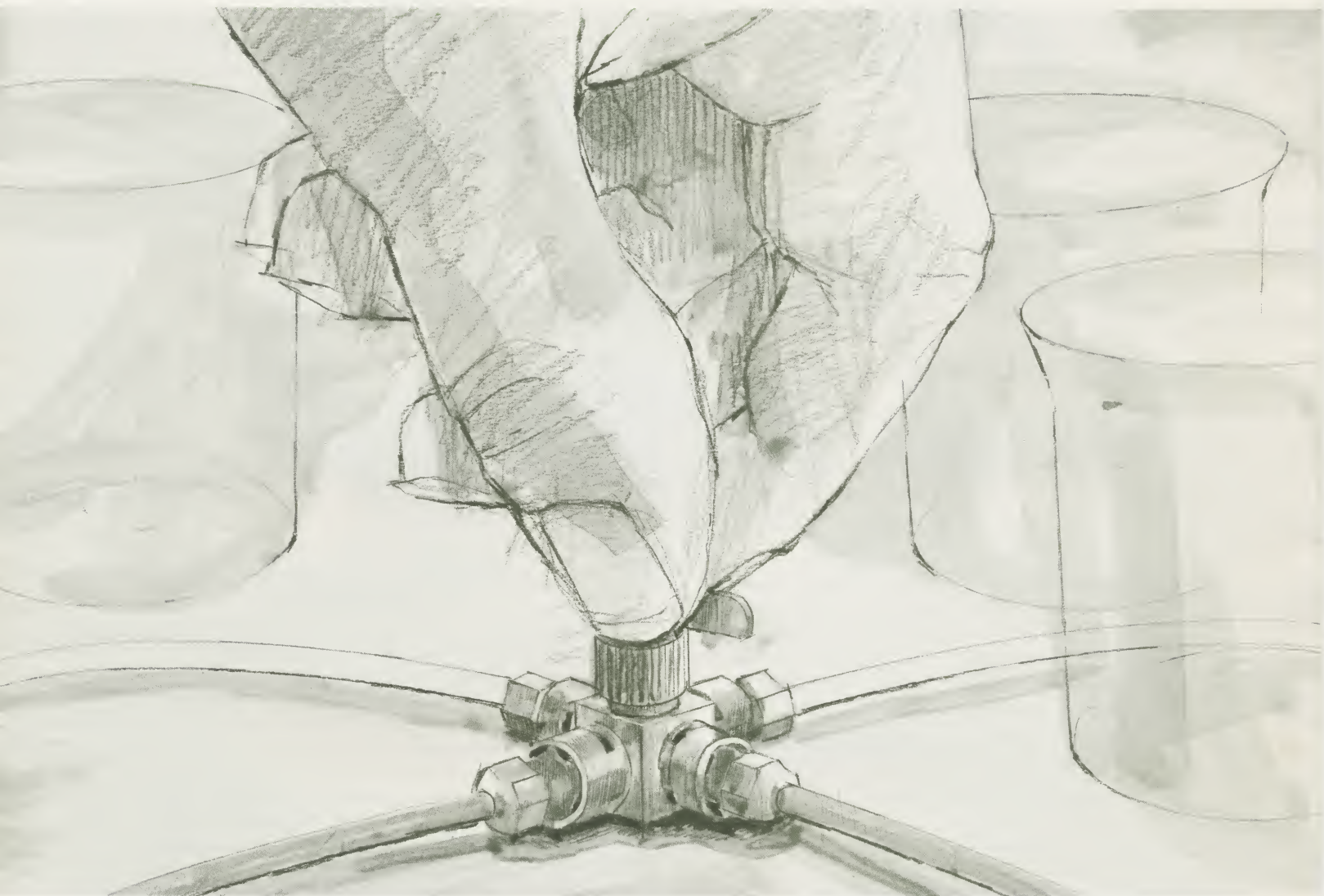


# HAMILTON

INERT VALVES\* AND ACCESSORIES

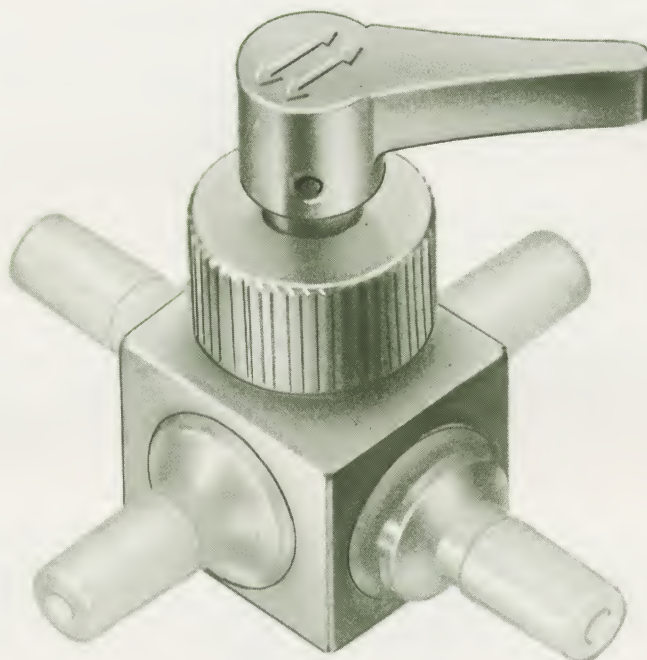


Here is a way to build a piping system for gases and liquids that is essentially inert and gas-tight. The secret is Hamilton's miniature Valve. It is constructed of Teflon and Kel-F, and housed in a sturdy metal body. A variety of luer-type fittings connect easily without wrenches or lab grease. It is available as a 2-way, 3 way or 4-way valve. And it's compact and lightweight. Add to that...Teflon tubing...in various lengths...with Kel-F hubs...and you have a simple, efficient piping system that's gas-tight and inert. You'll save time in set-ups and changes. You'll save bench and storage space. And you'll be able to try piping variations never before possible. Write today for Catalog and Prices.

\*Patent Pending

©1966 by Hamilton Company

## FOUR-WAY HAMILTON VALVE



### GREATEST VARIETY AVAILABLE

With Hamilton Valves and Accessories, you can build the piping system you need for control of corrosive gases and liquids . . . in miniature . . . without reaction and without loss of gas or liquid.

This versatile group of Teflon\* and Kel-F† equipment includes every element necessary for a complete system. You can quickly alter or expand your flow set-up through multiple variations. You can connect and disconnect the standard luer fittings at a touch — without wrenches or lubricant — and save untold hours when changes are required. The compact size and less-than-one-ounce weight of a Hamilton Valve not only saves bench and storage space, but allows a whole system to be free standing. To the best of our knowledge, this is the greatest variety of portable, miniature, inert valving equipment available.

**Porting arrangements allow flow through any two adjacent ports, any three adjacent ports, or any two pairs of adjacent ports. Choice of male and/or female luer connectors. Other fittings optional at extra cost. Overall: 1-3/16" wide x 1" high x 1-3/16" long. Weight: under 1 ounce. (Specifications for #4 Four-Way Valve illustrated above.)**

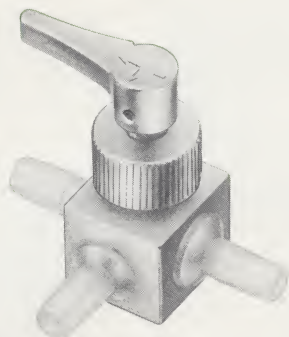
Hamilton Valves and Accessories fill the needs of most laboratories and instrument manufacturers for a small volume, gas-tight, inert valving system, capable of endless rearrangements. The ported plugs are precision-machined from self-lubricating solid Teflon\*. . . other wetted parts from Kel-F†. They assure essential inertness and leakproof operation over a temperature range of  $-10^{\circ}$  to  $+100^{\circ}\text{C}$ . A sturdy metal body protects the working parts.

As a part of Quality Assurance, every Hamilton Valve is tested leak-tight to 100 psi at ambient temperature. Fingertip adjustment of the packing nut provides a positive seal. Many common items are stocked for immediate delivery, however, because of the many options and accessories, some valves must be made to customer specifications. This equipment is all autoclavable.

†3M Registered Trademark

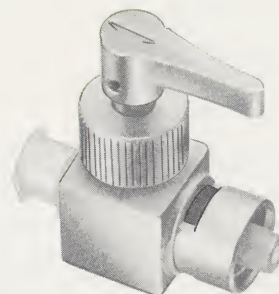
\*DuPont Registered Trademark





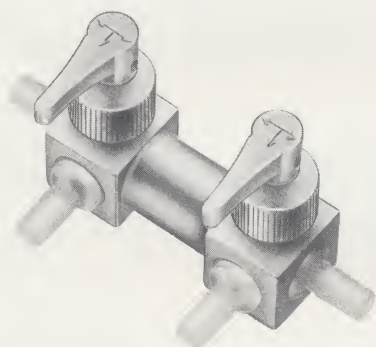
### #3 THREE-WAY HAMILTON VALVE

Porting arrangements allow flow through any two adjacent ports or through all three at once. Choice of male and/or female luer connectors. Other fittings optional at extra cost. Standard port size: .060". Overall:  $\frac{7}{8}$ " wide x 1" high x  $1\frac{1}{8}$ " long. Weight: under 1 ounce.



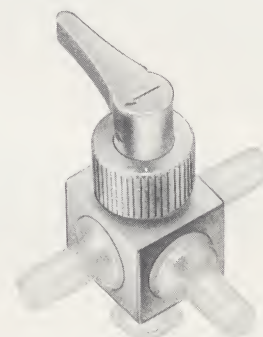
### #2 TWO-WAY HAMILTON VALVE

For simple on-off control of straight-through flow. Choice of male and/or female luer connectors. Other fittings optional at extra cost. Standard port size: .060". Overall:  $\frac{7}{8}$ " wide x 1" high x  $1\frac{1}{8}$ " long. Weight: under 1 ounce.



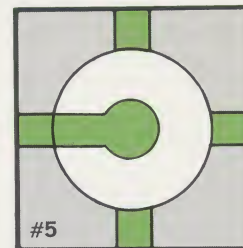
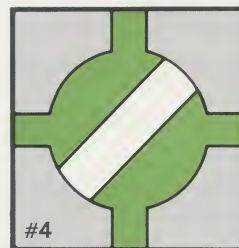
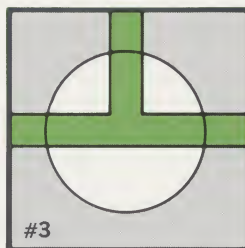
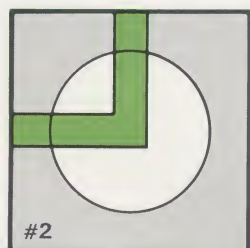
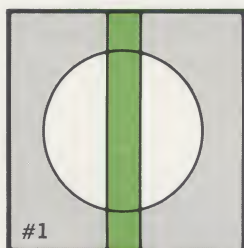
### #86514 HAMILTON RECIRCULATING VALVE

A useful tool for liquid recirculating chromatography. Two three-way valves hooked together in Siamese fashion with T porting arrangement and male luer tips at all terminals. This arrangement offers a separate sample entry port, fraction-collecting effluent and undisturbed recirculation. #86514 is supplied with a mounting clip for easy attachment to the liquid, chromatographic column or ring stand.



### #86520 HAMILTON DISTRIBUTION VALVE

New from Hamilton! The standard Hamilton valve with a luer terminal on the bottom. An inverted L porting arrangement allows liquid or gas to enter through the bottom and be distributed selectively through the side terminals. Available with any combination of luer terminal and #5 porting arrangement only. (When ordering, use same system as for standard valve. Letter D should precede the standard ordering nomenclature.)



## PORTING ARRANGEMENTS

#1—180° TWO-WAY. Straight-through flow, used in standard two-way valve for instant on-off control. Teflon\* plug.

#2—90° TWO-WAY. Right angle port allows flow through any two adjacent 90° ports in three-way or four-way valve. Teflon\* plug.

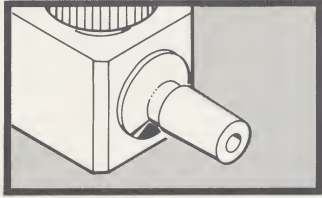
#3—"T" PORT. Allows flow through three adjacent ports in three-way or four-way valve. Teflon\* plug.

#4—FOUR-WAY PORT. Allows simultaneous flow through any two pairs of adjacent ports in four-way valve only. Teflon\* plug.

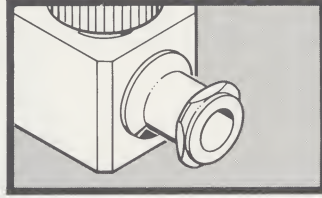
#5—INVERTED "L". Allows entry flow through bottom of valve and selective distribution through side terminals of two, three or four-way valve. Teflon\* plug.

## HAMILTON VALVE ACCESSORIES

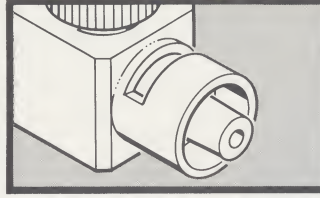
FITTINGS (Gas-tight when used with other Hamilton Valve components)



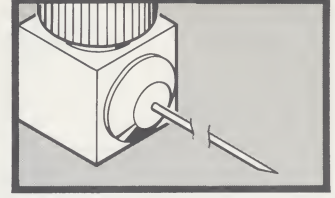
**M — MALE.** Standard male luer taper, as on all American-made syringes. Allows finger-tight, gas-tight connection and quick disconnect. Kel-F†.



**F — FEMALE.** Standard female luer hub, same as on all American-made hypodermic needle hubs. Creates gas-tight seal with Hamilton Valve components. Kel-F†.



**L — MALE WITH LUER LOCK.** Metal locking device connects to female hub with twist. Assures positive seal. No drift or accidental disconnect.



**N — NEEDLE.** 2" stainless steel needle with tapered tip and 22° general purpose point. 22 gage. Other gages, point styles and lengths available on request.

**T — TUBING.** 2" annealed stainless, 1/16" and 1/8" O.D.

## CONNECTORS & TUBING

Connectors for Hamilton Valve tubing are available in ten configurations — all precision-made from durable, inert Kel-F†. All have standard luer taper for tight sealing against vacuum, or gas and liquid pressure. (Gas-tight when used with other Hamilton Valve components.) †3M Registered Trademark

**INERT TEFLON® TUBING** with .076" I.D. (other sizes available). Supplied with Kel-F† female luer fitting on both ends. Standard liquid pressure. (Gas-tight when used with other Hamilton Valve components.)

\*DuPont Registered Trademark



86506 — Male & Male



86507 — Male & Female



86505 — Female & Female



86511 — Luer Lock & Luer Lock



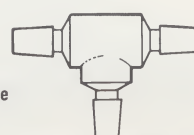
86513 — Luer Lock & Female



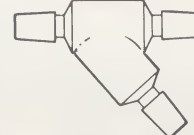
86512 — Luer Lock & Male



86515 — Luer Lock to Thread Connector



86516 — T Connector



86517 — Y Connector



86518 — X Connector



TUBING

## HAMILTON VALVE & ACCESSORY PRICES

| PART NO. | DESCRIPTION   | PRICE   | PART NO. | DESCRIPTION  | PRICE                                      |
|----------|---|---------|----------|--|--|
| 2        | Two-Way Valve   | \$16.00 | 86506    | Connector, Male and Male                             | 2.50                                       |
| 3        | Three-Way Valve   | 21.00   | 86505    | Connector, Female and Female                         | 2.50                                       |
| 4        | Four-Way Valve  | 25.00   | 86507    | Connector, Male and Female                           | 2.50                                       |
| 86514    | Recirculating Valve   | 50.00   | 86511    | Connector, Luer Lock and Luer Lock                   | 8.50                                       |
| 86519    | Distribution Valve, 2-Way                                     | 21.00   | 86512    | Connector, Luer Lock and Male                        | 6.50                                       |
| 86520    | 3-Way   | 25.00   | 86513    | Connector, Luer Lock and Female                      | 6.50                                       |
| 86521    | 4-Way   | 29.00   | 86515    | Connector, Luer Lock to Thread up to 5/16" O.D.      | 8.50                                       |
| M        | Fitting, Male Luer  | NC      | 86516    | Connector, "T" type, Male Terminations               | 7.50                                       |
| F        | Fitting, Female Luer  | NC      | 86517    | Connector, "Y" type, Male Terminations               | 7.50                                       |
| L        | Fitting, Male with Luer Lock                                  | 3.00    | 86518    | Connector, "X" type, Male Terminations               | 8.50                                       |
| N        | Fitting, 2" Stainless Steel Needle                            | 1.75    | 86509    | Teflon® Tubing, .076" I.D., Female Luer on both ends | First Ft. 5.00<br>Additional Ft., ea. 1.00 |
| T        | Tubing, Annealed Stainless Steel Length: 2"; O.D. 1/16", 1/8" | 1.75    |          |  |  |

## HOW TO ORDER

Because of the many options and accessories, we may be confused over your order unless you give particular attention to the code letters that follow the model number. Your best guarantee of receiving the exact item you desire, and avoiding unnecessary

delay, is to code your order properly. The following explanation of the code will assist you in selecting the correct code letters: List Valve Number first, Fittings second and Port third, in continuous sequence — as follows:

## HAMILTON VALVE

| PART NO. | DESCRIPTION  | PART NO. | DESCRIPTION  |
|----------|--|----------|--|
| 2MF1     | #2 Two-Way Valve, with one Male and one Female Fitting, and #1 Two-Way Port. Total Cost \$16.00  | 4LLMM4   | #4 Four-Way Valve, with two Luer Locks, two Male Fittings, and #4 Four-Way Port. Total Cost \$31.00  |
| 3LLM3    | #3 Three-Way Valve with two Luer Locks and one Male Fitting, and #3 "T" Port. Total Cost \$27.00 | D2MLF5   | #2 Two-Way Valve with Male Luer on bottom, one Luer Lock Fitting and one Female Fitting on sides, #5 Distribution Port. Total Cost \$24.00 |

PRECISION MEASURING EQUIPMENT FOR CHEMICAL AND CLINICAL RESEARCH

# HAMILTON

HAMILTON COMPANY • Post Office Box 307 • Whittier, California 90608 • Telephone: 698-0751, Area Code 213 • TWX 213-685-6433

European Agent: Micromesure N.V., P.O. Box 205, The Hague, Netherlands • Australian Agent: Thomas Optical, Melbourne, Australia  
Japanese Agent: Nissei Sangyo Co., Ltd., Tokyo C. P.O. Box 1316, Tokyo, Japan • New Zealand Agent: Watson-Victor, Wellington, New Zealand





HAMILTON COMPANY

Post Office Box 307  
Whittier, California 90608  
Phone 698-0751 • Area Code 213  
TWX 213-685-6433

April 4, 1967

T. Nelson  
Box 1546  
Poughkeepsie, New York 12603

Dear Mr. Nelson:

This is to acknowledge and thank you for your card with reference to your interest in our Valve line.

We are enclosing herewith a copy of our Valve brochure which gives complete listings of our valve line, including ordering and pricing information.

We thank you for your interest, and look forward to being of service.

Yours very truly,

HAMILTON COMPANY

*John P. Nadolny/aw*  
John P. Nadolny  
Manager, Field Engineering

JPN/aw

MICROLITER SYRINGES, PRECISION MEASURING INSTRUMENTS AND RELATED EQUIPMENT